When calculating these numbers, it's important to distinguish between our **Solar System** and the **Milky Way Galaxy**. Because space is so vast, "all of them" striking Earth is a physical impossibility, but we can look at the terrifying math of what would happen if you could somehow gather them all and drop them at once.

1. Estimated Number of Objects

The number of objects 100 lbs or larger depends on where you look. A 100 lb (45 kg) rock is roughly **1.5 feet (0.45 m) in diameter**, which is small enough to be called a "meteoroid" but large enough to survive atmospheric entry and hit the ground as a meteorite.

- **In Our Solar System:** Astronomers estimate there are **hundreds of millions to trillions** of objects this size. While we only know of about 1.3 million large asteroids (over 1 km), the population increases exponentially as size decreases.
- **In the Milky Way Galaxy:** There are an estimated **100 to 400 billion stars** in our galaxy. If each star has an asteroid belt similar to ours, and we account for "interstellar objects" (rogue rocks floating between stars), the number of 100-lb rocks is roughly **10^{20} to 10^{25}**. That is a 1 followed by 20 to 25 zeros.

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2. The Damage: Solar System Scenario

If you took only the asteroids in **our Solar System's Main Belt** and slammed them into Earth at the same time:

- **Total Mass:** The total mass of the asteroid belt is about 3×10^{21} kg (roughly **3% of the mass of our Moon**).

- **The Impact:** This would not just be "damage"—it would be a **planetary reset**.
    - **Crustal Destruction:** The impact would release enough energy to strip the Earth's atmosphere and boil away the entire world's oceans instantly.

    - **Molten Earth:** The Earth's surface would be converted into a global ocean of liquid magma. The planet would glow like a small star for thousands of years before cooling.
    - **Life:** Total extinction. Not even microbes deep in the crust would survive, as the heat would penetrate miles into the Earth.

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3. The Damage: Milky Way Scenario

If you literally meant **every asteroid in the entire Milky Way galaxy**, the result is even more extreme:

- **Total Mass:** 100 billion asteroid belts would have a combined mass roughly **150 times that of our Sun**.
- **The Result:** Earth wouldn't just be hit; it would be **swallowed**. The sheer gravity of that much rock being moved toward Earth would cause the rocks themselves to collapse under their own weight. Before they even "hit" Earth, the mass would ignite nuclear fusion and become a **new, massive star**. The Earth would simply be a microscopic speck of "impurities" inside this new star.

Summary Table: Impact Comparisons

Object(s)	Impact Frequency	Result on Earth
Single 100 lb meteor	Daily	Bright "fireball"; usually burns up or leaves a small rock.
Chicxulub (Dino-killer)	Every 100M years	Global fires, "impact winter," mass extinction.
Entire Asteroid Belt	Never	Earth melts into a ball of lava; new Moon may form.
Entire Milky Way	Impossible	Earth is absorbed into a newly formed super-star.